ATTACHMENT LL

FUGRO WEST, INC.

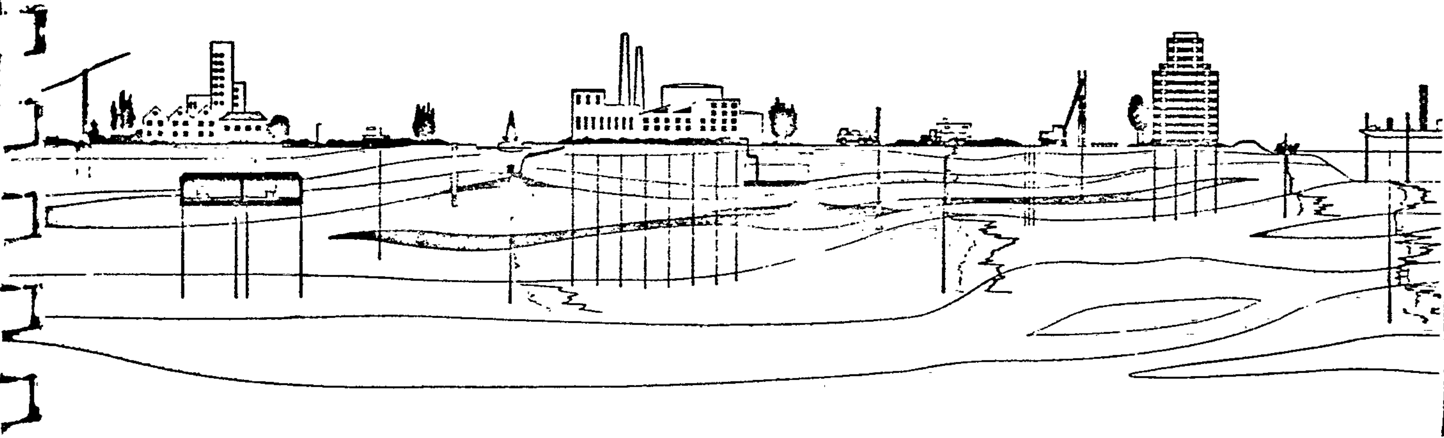
SOIL VAPOR EXTRACTION PILOT TEST INTERPRETATION REPORT

SHELL SERVICE STATION
3801 SEPULVEDA BOULEVARD
CULVER CITY, CALIFORNIA

Prepared for:
SHELL OIL COMPANY

November 1994

C#11650
§ I-7099



FUGRO WEST, INC.

5855 Olivas Park Drive
Ventura, CA 93003-7672
Tel: (805) 650-7000
Fax: (805) 650-7010

November 28, 1994
Project No. 92-41-2850
WIC No. 204-1944-0100
LADPW Site I-7099

Shell Oil Company
Post Office Box 4848
Anaheim, California 92803

Attention: Mr. Mike Claudio
Environmental Engineer

Soil Vapor Extraction Pilot Test Interpretation Report
Shell Service Station
3801 Sepulveda Boulevard
Culver City, California

Executive Summary

A soil vapor extraction pilot test was performed at the site on October 17, 1994. The radius of influence for the wells tested (Plate 1 - Vicinity Map, Plate 2 - Site Map) was estimated to be between 20 and 75 feet. Flow rates were between about 30 and 75 standard cubic feet per minute (scfm) at vacuums between about 3 and 16 inches of water. Total petroleum hydrocarbon (TPH) concentrations in soil vapor samples analyzed at a laboratory were between 706 and 15,812 parts per million by volume (ppmv).

Using the lithologic data, three zones were modeled: a shallow zone (extending from 20 to 40 feet below grade), intermediate zone (from 40 to 60 feet), and deep zone (60 to 110 feet). The deep zone was subdivided into two zones (area above the capillary fringe and the capillary fringe). Soil vapor extraction pilot test data were analyzed using the computer program HYPERVENTILATE. Gasoline-impacted soil at the site is beneath the former tank cluster and along the ground water capillary fringe. Ground water is at a depth of between 90 and 100 feet below grade. Based on the volume of impacted soil and an estimated average TPH concentration of between 1,000 and 5,000 parts per million (ppm), approximately 92,534 pounds (15,400 gallons) of gasoline exist in soils beneath the site. This does not include the volume of gasoline on or in the ground water.

Introduction

Prior to the design of remediation at this Shell site, Fugro performed six vapor extraction tests to determine venting parameters and concentration of volatiles in the extracted vapor stream. Six tests were completed on October 17, 1994. These data have been interpreted and site conditions modeled using the vapor extraction remediation program HYPERVENTILATE.

Soil Contamination Description Summary

Results of laboratory analyses performed on soil samples collected during the tank replacement are presented in Table 1 - Tank, Piping, and Dispenser Removal Verification Soil Sample Laboratory Results. Soil sample locations are shown on Plate 2. Results of laboratory analyses on soil samples collected from soil borings/vapor extraction wells installed at the site are presented in Table 2 - Summary Table - Soil Boring Laboratory Analyses. Boring locations are shown on Plate 2. Geologic conditions encountered in the soil borings are illustrated in two cross sections (Plate 3 - Cross Section A-A' and Plate 4 - Cross Section B-B'). The location of the cross section lines are shown on Plate 2. TPH concentrations in soil samples are included on the cross sections.

Gasoline-impacted soil beneath the site is beneath the former underground storage tanks and along the ground water capillary fringe. Gasoline-impacted soil extends to the ground water table. The distribution of gasoline constituents in soil suggest that this gasoline migrated principally vertically until ground water was reached. Upon reaching the ground water, migration was then horizontally on the ground water table. Ground water is at about 90-100 feet below grade. Based on the volume of impacted soil and an estimated average TPH concentration between 1,000 and 5,000 ppm, approximately 92,534 pounds or 15,400 gallons of gasoline exist in soils beneath the site. Free phase gasoline exists in the ground water below the site. The volume of gasoline on or in the ground water was not estimated as part of this report.

Soil Vapor Extraction Test Methodology

Soil vapor extraction pilot tests were performed on several wells at the site on October 17, 1994. Using a VR Systems internal combustion engine, vacuum was induced in a well. Emissions were controlled with the VR Systems unit. Construction specifications for the extraction and monitoring wells are listed in Table 3 - Screened Intervals - Existing Wells. Monitoring data obtained from the tests are listed in Table 4 - Vapor Extraction Test Data.

Vacuum, flow rate, temperature, and volatile organic compound (VOC) concentrations were measured during the tests. VOC concentrations were measured with a Photovac Microtip photoionization detector calibrated with isobutylene. Additionally, vapor samples were collected in Tedlar bags; bag vapor samples were analyzed at a state certified laboratory for TPH (U.S.

EPA 8015 modified for gasoline) and benzene, toluene, ethylbenzene and total xylenes (U.S. EPA 8020). Table 5 - Tedlar Bag Sample Analyses, lists the analytical results collected during the vapor extraction tests. Appendix A includes the laboratory transcripts for samples analyzed. Flow rates were measured using an orifice plate assembly and the flow gauge on the VR Systems engine. The South Coast Air Quality Management District was notified prior to the test.

Results of Soil Vapor Extraction Pilot Test

The results of the soil vapor extraction tests are presented in Table 4.

Six vapor tests were performed at the site. The different tests were used to determine flow conditions at different locations and depths. Table 6 - Radius of Influence Summary, summarizes the radius of influence achieved for each test. Based on the measured vacuum at the monitoring wells, we have estimated that a 75-foot radius of influence can be achieved at this site for the deep zone (60 to 110 feet), a 50-foot radius of influence for the intermediate zone (40 to 60 feet), and a 20-foot radius of influence in the shallow zone (20 to 40 feet).

TPH levels from the vapor stream exceeded 15,000 ppmv. All samples analyzed had detectable levels of TPH and BTEX. PID data recorded during the tests also measured elevated levels of volatile hydrocarbons.

Vapor flow rates were estimated two ways. The first way was to record the flow from the meter on the VR Systems engine. As a check on the accuracy of the VR Systems gauge, a calculation was done based on the orifice plate data. The orifice plate calculation is shown on Table 7 - Orifice Plate Flow Measurement Data. The calculation uses the pressure drop across the orifice plate to determine flow. We found that the VR System gauge was within 2 to 5 scfm of the values calculated with the orifice plate data.

Soil Vapor Extraction System Design

Soil vapor extraction pilot test data were analyzed using the computer program HYPERVENTILATE. Modeling theory, input data and modeling results are presented in Appendix B - HYPERVENTILATE Cards.

The distribution of gasoline-impacted soil was modeled as follows: the shallow zone (20-40 feet) contamination has an average of 3,000 ppm TPH and consists of a cylinder with a radius of 33 feet. The intermediate zone (40 to 60 feet) is a cylinder with a radius of 28 feet and an average TPH concentration of 2,000 ppm. A third zone, the deep zone, extends from 60 to 110 feet below grade. To estimate the volume of gasoline in this deep zone, it was divided into two units; the upper unit is above the capillary fringe, and the lower unit is the capillary fringe. The distribution of gasoline in the upper unit is modeled as a cylinder with a

radius of 26 feet a thickness of 35 feet, and a average TPH concentration of 1,000 ppm. The capillary fringe unit is modeled as a cylinder with a radius of 75 feet a thickness of 5 feet, and an average TPH concentration of 5,000 ppm. Based on the volume of gasoline-impacted soil and an estimated average TPH concentration of 1,000 to 5,000 ppm, approximately 15,400 gallons of gasoline exist in soils beneath the site.

Three of the test runs were analyzed using HYPERVENTILATE. Soil permeabilities calculated are listed in Table 8 - Soil Permeability. The calculated permeabilities exceeded 100 darcies. To estimate the number of wells needed to remediate the site, 10 to 100 darcies permeability were used to model the intermediate and deep zones, and a 16 darcy permeability was used for the shallow zone. These permeability ranges are a conservative modeling of the site, other parameters used to model the site include:

- Design vacuum value obtained from the vacuum achieved during the testing.
- Well radius.
- Screened interval.
- Radius of influence - value estimated from testing data.
- Critical volume of air - estimated by HYPERVENTILATE.
- Well efficiency - estimated based on lithology.

Using this model, HYPERVENTILATE calculated the number of vapor extraction wells needed to remediate the site. Remediation is defined as removing 90 percent of the contaminant in the period of time specified. Based on the area of impacted soil, for remediation, two wells are necessary to remediate the shallow zone, two wells to remediate the intermediate zone, and five wells to remediate the deep zone.

Table 3 lists the screened intervals of the wells installed to assess this site. Four vapor extraction wells are screened through the shallow zone, eight screened in the intermediate zone, and eight screened through the deep zone. Plates 5 through 7 depict radius of influence estimates for the shallow, intermediate, and deep zones, respectively. The radius of influence used are 20 feet, 50 feet, and 75 feet, respectively.

Summary

The vapor extraction test data have been interpreted using the program HYPERVENTILATE. Contaminants at the site have been modeled as being in three lithologic zones: shallow intermediate, and deep zones. Vapor extraction wells have been installed in each zone. Radius of influence of venting differs in each zone, from 20 feet (shallow zone), 50 (intermediate zone) and 75 feet (deep zone).

Alluvium below the site is generally medium- to coarse-grained sand. These types of sediments are amenable to vapor extraction. We were able to obtain flow rates of about 50 to 75 scfm with low vacuum (less than 20 inches water column). Higher flow rates should be obtainable with a larger blower. Hydrocarbon levels in the vapor stream exceeded 15,000 ppmv (TPH). These levels show that volatilization of hydrocarbons can be achieved through vapor extraction.

The existing vapor extraction wells should be adequate to remediate soil-related contaminant found below the Shell property and the Maurice Joffe Tax Service office west of Shell. The contaminant distribution identified during site assessments done by Shell show that contaminants migrated vertically from the tank area to the ground water table. Upon reaching the water table, migration has been laterally on the water. With a 20-foot radius of influence, two wells screened in the shallow zone should cover the shallow area of gasoline-impacted soil. With a 50-foot radius of influence, two wells in the intermediate zone should suffice in remediating the intermediate zone. The deep zone, with a 75 feet radius of influence, could be covered by about four wells. More than four wells have been completed in the deep zone. These wells should cover the deep zone contamination detected below the Shell site and below Maurice Joffe's Tax Service site (Plate 7).

Soil conditions below this property are permeable. Thus, a high flow rate vapor extraction unit would be appropriate for soil vapor extraction. The amount of vacuum necessary does not have to be very high. A vapor extraction blower capable of producing 500 to 1,000 standard cubic feet per minute with a vacuum of about 20 to 25 inches of water would be well suited for the remediation of gasoline-impacted soil below this site.

Limitations

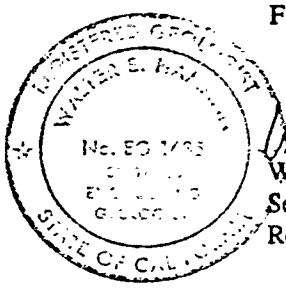
This report has been prepared for Shell Oil Company as a field assessment of subsurface conditions at the Shell service station located at 3801 Sepulveda Boulevard, Culver City, California. In performing our professional services, we have applied present engineering and scientific judgement and used a level of effort consistent with the standard of practice measured on the date of this report and in the locale of the project site for similar type studies. Fugro makes no warranty concerning any of the materials or services furnished by Fugro.

The analyses and interpretations in this report have been developed based on the results of a soil vapor extraction pilot test, results of the computer model program HYPERVENTILATE, limited previous soil sampling and laboratory results from analyses performed on air and soil samples. It should be recognized that subsurface conditions can vary laterally and with depth below a given site. The evaluation contained herein is based solely on sampling results at the sample locations identified.

We appreciate the opportunity to have worked with you on this interesting assignment. Please call the undersigned if you have any questions or comments.

Sincerely,

FUGRO WEST, INC.



Walter E. Hamann
Senior Geologist
Registered Geologist No. 4742

JWM/WEH:ts

Attachments: Tables 1 through 8
Plates 1 through 7
Appendices A and B

Table 1. Tank, Piping, and Dispenser Removal Verification Soil Sample Laboratory Results

Analyses Performed: Total Petroleum Hydrocarbons (TPH), U.S. EPA Method 8015 Modified for Gasoline or Diesel
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX), U.S. EPA Method 8020
Organic Lead, CAL/EPA Draft Method

Sample	Data in parts per million (ppm)						
	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	Organic Lead
BELOW UNDERGROUND FUEL STORAGE TANKS							
1A	—	ND	ND	0.20	0.13	0.60	—
1B	—	ND	ND	0.16	ND	0.33	—
2A	1,987	—	17	445	122	1,040	0.5
2B	ND	—	ND	ND	ND	ND	0.6
3A	2.3	—	ND	0.17	ND	0.46	—
3B	0.6	—	ND	ND	ND	ND	—
4A	1.7	—	ND	ND	ND	0.24	—
4B	ND	—	ND	ND	ND	0.24	—
BELOW FUEL DISPENSERS AND PRODUCT LINES							
D-1	30.6	—	0.05	2.1	0.2	7.1	—
D-2	27.4	—	0.05	1.4	0.08	4.3	—
D-3	ND	—	0.05	0.05	ND	0.04	—
D-4	2,212.5	—	18	73	69	930.7	—
D-5	ND	ND	0.06	0.06	0.02	0.08	—
L-1	ND	—	0.06	0.04	ND	0.04	—
SPOIL PILE SAMPLES							
SP-1, SP-5	1.2	—	0.3	ND	ND	ND	—
SP-2, SP-3, SP-4	1.0	—	ND	ND	0.15	0.36	—
SP-6, SP-7	1.2	—	ND	ND	ND	0.69	—
SP-8	ND	—	0.06	0.04	ND	0.2	—
SP-9	ND	—	0.04	0.04	ND	0.06	—
Detection Limit	0.5	10	0.005	0.005	0.005	0.015	0.5

Analysis by Crosby Labs, Inc.

ND Not detected

C8 00117 8

FUGRO

Table 2. Summary Table - Soil Boring Laboratory Analyses

Analyses Performed: Total Petroleum Hydrocarbons (TPH), U.S. EPA Method 8015 Modified for Gasoline
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX), U.S. EPA Method 8020
Organic Lead, CAL/EPA Draft Method

Depth Below Grade (feet)	Data in parts per million (ppm)					
	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	Organic Lead
BORING B-1 (MW-1)						
25	12,851	224.293	1,432	278.877	1,754	ND
30	1,878	15.431	167.560	36.970	256.861	ND
35	11,131	246.427	1,267	220.338	1,434	ND
40	9,520	170.438	847.768	165.436	1,290	ND
45	1,851	8.783	123.907	43.000	282.642	ND
50	1,392	7.069	97.353	34.120	235.539	ND
55	3,406	22.516	326.476	80.217	477.574	ND
60	2,021	14.322	187.602	47.200	290.699	ND
65	4,126	57.417	414.158	84.347	580.494	ND
75	2,725	18.040	221.801	62.241	365.619	ND
80	ND	ND	ND	ND	ND	ND
85	ND	ND	0.173	ND	ND	ND
90	24.9	ND	0.575	0.299	1.624	ND
95	ND	ND	0.235	0.288	1.157	ND
100	ND	0.175	0.110	0.302	1.670	ND
BORING B-2 (MW-2)						
5	ND	ND	ND	ND	ND	ND
10	ND	ND	ND	ND	ND	ND
15	ND	ND	ND	ND	ND	ND
20	ND	ND	ND	ND	ND	ND
25	ND	ND	ND	ND	ND	ND
30	ND	0.095	ND	ND	0.183	ND
35	ND	0.105	ND	ND	0.194	ND
40	ND	ND	ND	0.074	0.294	ND
45	ND	0.121	ND	ND	ND	ND
50	ND	ND	ND	ND	ND	ND
55	ND	ND	ND	ND	ND	ND
60	ND	ND	0.181	ND	0.314	ND
65	20	0.061	0.168	0.801	0.557	ND
70	8,356	146.997	941.525	186.151	1,051	ND
75	5,091	87.682	554.591	107.931	641.420	ND
80	2,027	24.957	207.714	44.223	258.153	ND
85	4,316	67.367	462.990	94.941	573.698	ND
90	9,660	139.584	879.241	181.652	1,099	ND
95	4,951	52.652	275.102	72.857	593.229	ND
105	71	1.898	6.915	1.385	8.538	ND

C8 00119

Table 2. (Continued)

Depth Below Grade (feet)	Data in parts per million (ppm)					
	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	Organic Lead
BORING B-3 (VE-3)						
5	ND	ND	ND	ND	ND	ND
10	ND	ND	ND	ND	ND	ND
15	ND	ND	ND	ND	ND	ND
20	ND	ND	ND	ND	ND	ND
25	20,676	135.346	1,857	575.935	3,905	ND
30	1,377	8.073	102.014	34.432	201.949	ND
35	430	7.691	31.903	5.421	54.401	ND
40	599	5.336	17.360	3.653	24.972	0.5
45	ND	ND	0.071	ND	0.220	ND
MW-3						
55	ND	ND	ND	ND	ND	—
60	ND	ND	ND	ND	ND	—
65	ND	ND	ND	ND	ND	—
70	ND	ND	ND	ND	ND	—
75	ND	ND	ND	ND	ND	—
80	ND	0.018	0.033	0.006	0.090	—
85	ND	ND	ND	ND	ND	—
90	ND	ND	ND	ND	ND	—
100	ND	ND	ND	ND	ND	—
MW-4/VE-6 (HP-5)						
55	ND	0.019	0.024	0.009	0.067	—
60	ND	ND	ND	ND	ND	—
65	ND	ND	ND	ND	ND	—
70	ND	ND	ND	ND	ND	—
75	ND	ND	ND	ND	ND	—
80	ND	ND	ND	ND	ND	—
85	ND	ND	ND	ND	ND	—
90	ND	ND	ND	ND	ND	—
MW-5/VE-7 (HP-6)						
50	ND	ND	ND	ND	ND	—
55	ND	ND	ND	ND	ND	—
60	ND	ND	ND	ND	ND	—
65	ND	ND	ND	ND	ND	—
70	ND	ND	ND	ND	ND	—
75	ND	ND	ND	ND	ND	—
80	ND	ND	ND	ND	ND	—
85	ND	ND	ND	ND	ND	—
90	ND	ND	ND	ND	ND	—
95	ND	ND	ND	ND	ND	—
100	7514	154.321	515.818	48.997	260.332	—

Table 2. (Continued)

Depth Below Grade (feet)	Data in parts per million (ppm)					
	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	Organic Lead
VE-4 (HP-1)						
50	ND	0.009	0.007	ND	ND	—
55	ND	ND	ND	ND	ND	—
60	ND	0.017	0.021	ND	0.020	—
65	ND	0.007	0.012	ND	ND	—
70	ND	ND	ND	ND	ND	—
75	ND	ND	ND	ND	ND	—
80	ND	ND	ND	ND	ND	—
85	ND	ND	ND	ND	ND	—
90	ND	0.069	0.967	0.203	1.521	—
VE-5 (HP-2)						
55	ND	ND	ND	ND	ND	—
60	ND	ND	ND	ND	ND	—
65	ND	ND	ND	ND	ND	—
70	ND	ND	ND	ND	ND	—
75	ND	ND	ND	ND	ND	—
80	ND	ND	ND	ND	ND	—
85	ND	ND	ND	ND	ND	—
90	ND	ND	ND	ND	ND	—
95	ND	ND	ND	ND	ND	—
VE-8 (HP-4)						
30	ND	ND	ND	ND	ND	—
35	ND	ND	ND	ND	ND	—
40	ND	ND	ND	ND	ND	—
45	ND	ND	ND	ND	ND	—
50	ND	0.098	0.169	0.027	0.165	—
55	ND	ND	ND	ND	0.020	—
60	ND	ND	ND	ND	ND	—
65	ND	ND	ND	ND	ND	—
70	ND	0.012	0.028	ND	0.023	—
75	ND	ND	ND	ND	ND	—
80	ND	ND	ND	ND	ND	—
85	ND	ND	0.013	ND	ND	—
90	ND	0.008	0.016	ND	ND	—
95	ND	0.010	0.183	0.045	0.357	—
100	10,169	46.633	725.433	261.160	1531	—

Table 2. (Continued)

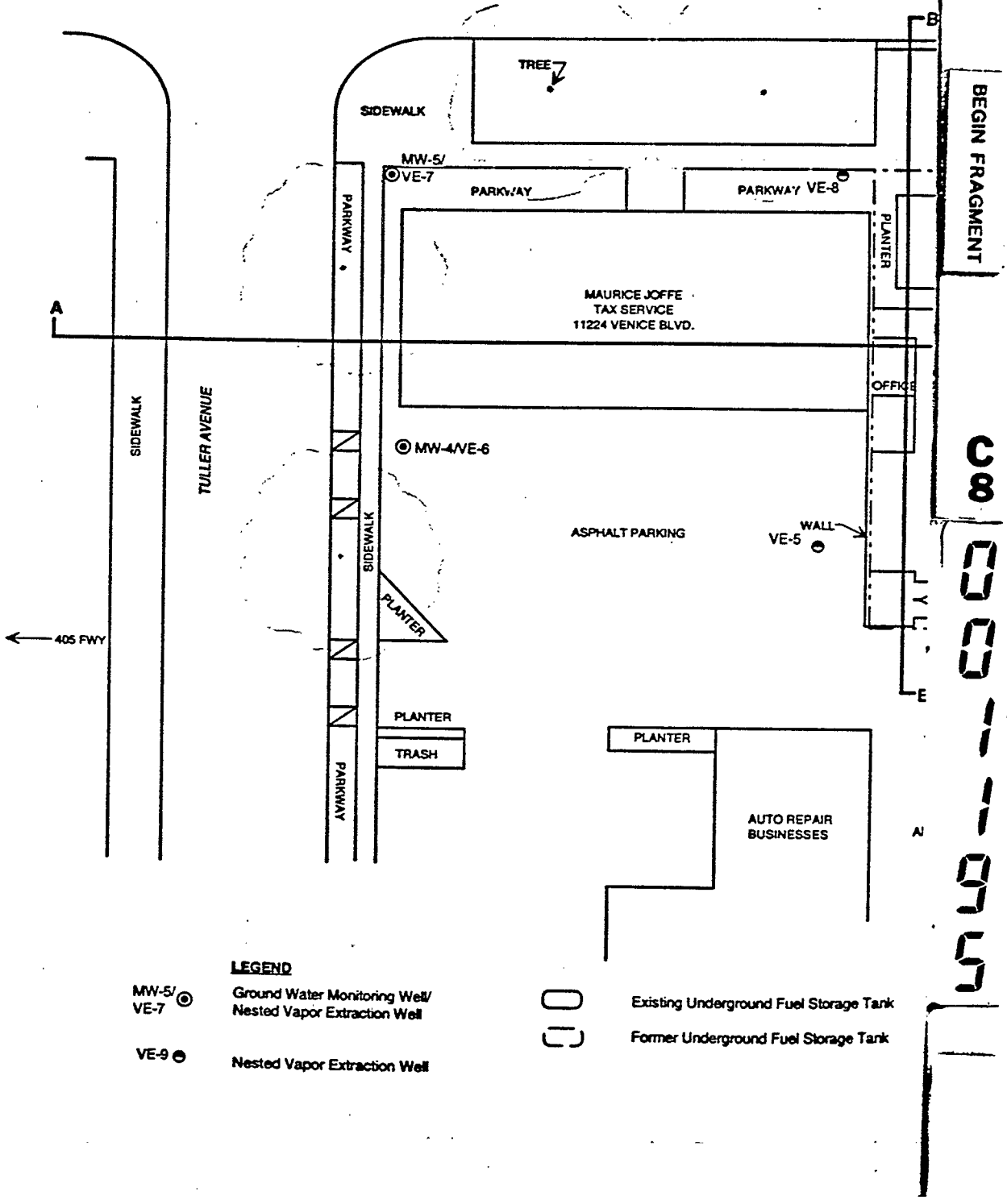
Depth Below Grade (feet)	Data in parts per million (ppm)					
	TPH Gasoline	Benzene	Toluene	Ethyibenzene	Total Xylenes	Organic Lead
VE-9 (HP-3)						
25	ND	ND	ND	ND	ND	—
30	ND	ND	ND	ND	ND	—
35	ND	ND	ND	ND	ND	—
40	ND	ND	ND	ND	ND	—
45	ND	ND	ND	ND	ND	—
50	ND	0.006	0.021	ND	0.036	—
55	ND	ND	0.012	ND	ND	—
60	11	0.045	0.600	0.310	1.276	—
65	ND	ND	ND	ND	ND	—
70	ND	ND	ND	ND	ND	—
75	ND	ND	ND	ND	ND	—
80	ND	0.211	0.469	0.077	0.526	—
85	ND	0.317	0.483	0.040	0.268	—
90	ND	0.018	0.020	0.014	0.077	—
Detection Limits	10	0.005	0.005	0.005	0.015	0.5

Analyses by Crosby Labs, Inc.
ND Not detected
— Not analyzed

Table 3. Screened Intervals - Existing Wells

Well	Screened Interval in Feet		
	Shallow	Intermediate	Deep
VE-1	20 to 35	40 to 55	70 to 110
VE-2	25 to 40	45 to 60	70 to 110
VE-3	20 to 30	—	—
VE-4	—	50 to 70	75 to 95
VE-5	—	50 to 70	80 to 110
VE-6	—	55 to 65	80 to 120
VE-7	—	52 to 62	80 to 120
VE-8	35 to 55	60 to 80	85 to 105
VE-9A	—	—	75 to 95
VE-9B	—	50 to 70	—

November 1994
Project No. 92-41-2850



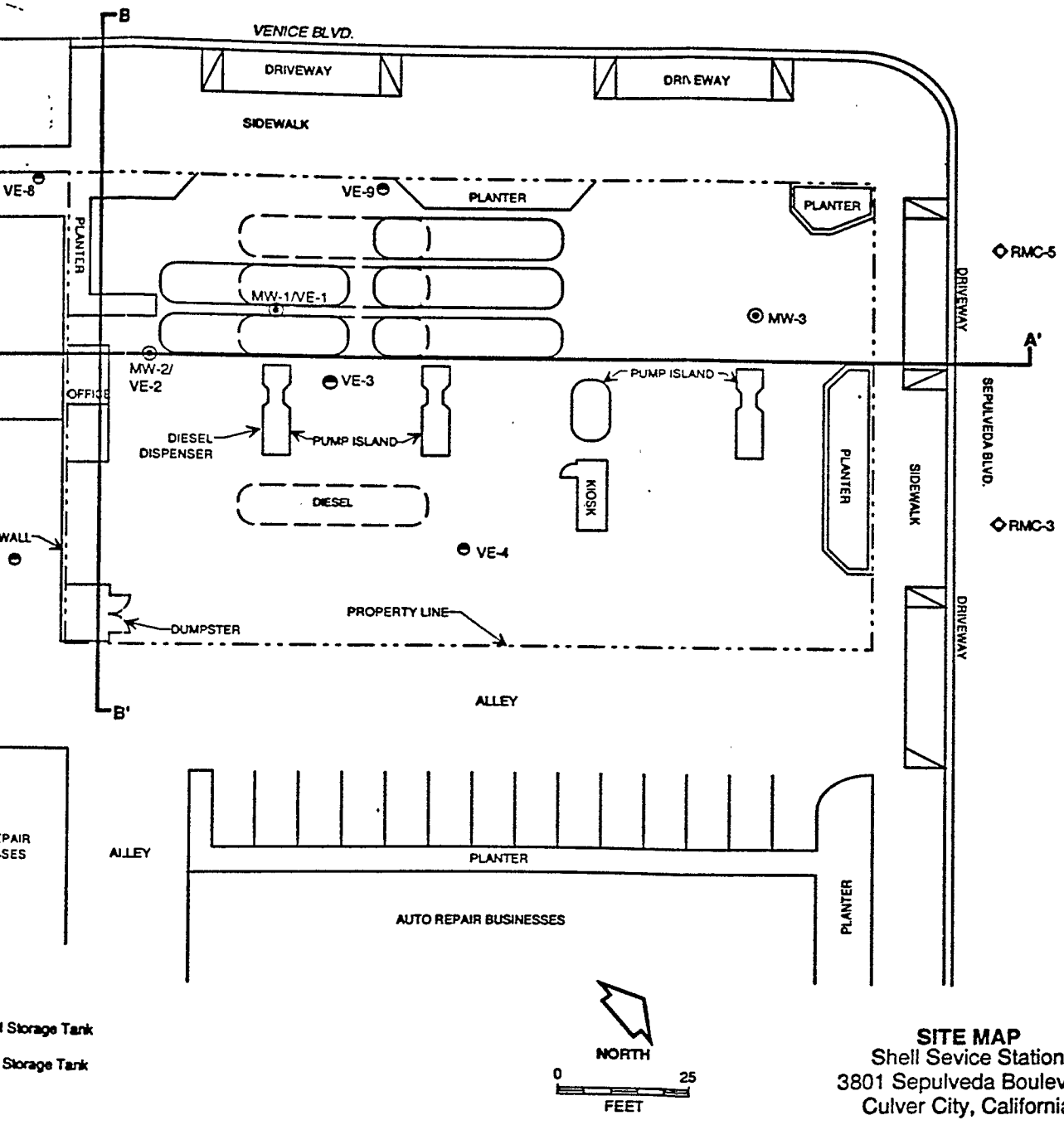
C8 00-1-1-07-5

LEGEND

MW-5/ VE-7 ◎	Ground Water Monitoring Well/ Nested Vapor Extraction Well
VE-9 ⊖	Nested Vapor Extraction Well
▭	Existing Underground Fuel Storage Tank
▭	Former Underground Fuel Storage Tank

00287

FUGRO



SITE MAP
Shell Sevice Station
3801 Sepulveda Boulevard
Culver City, California

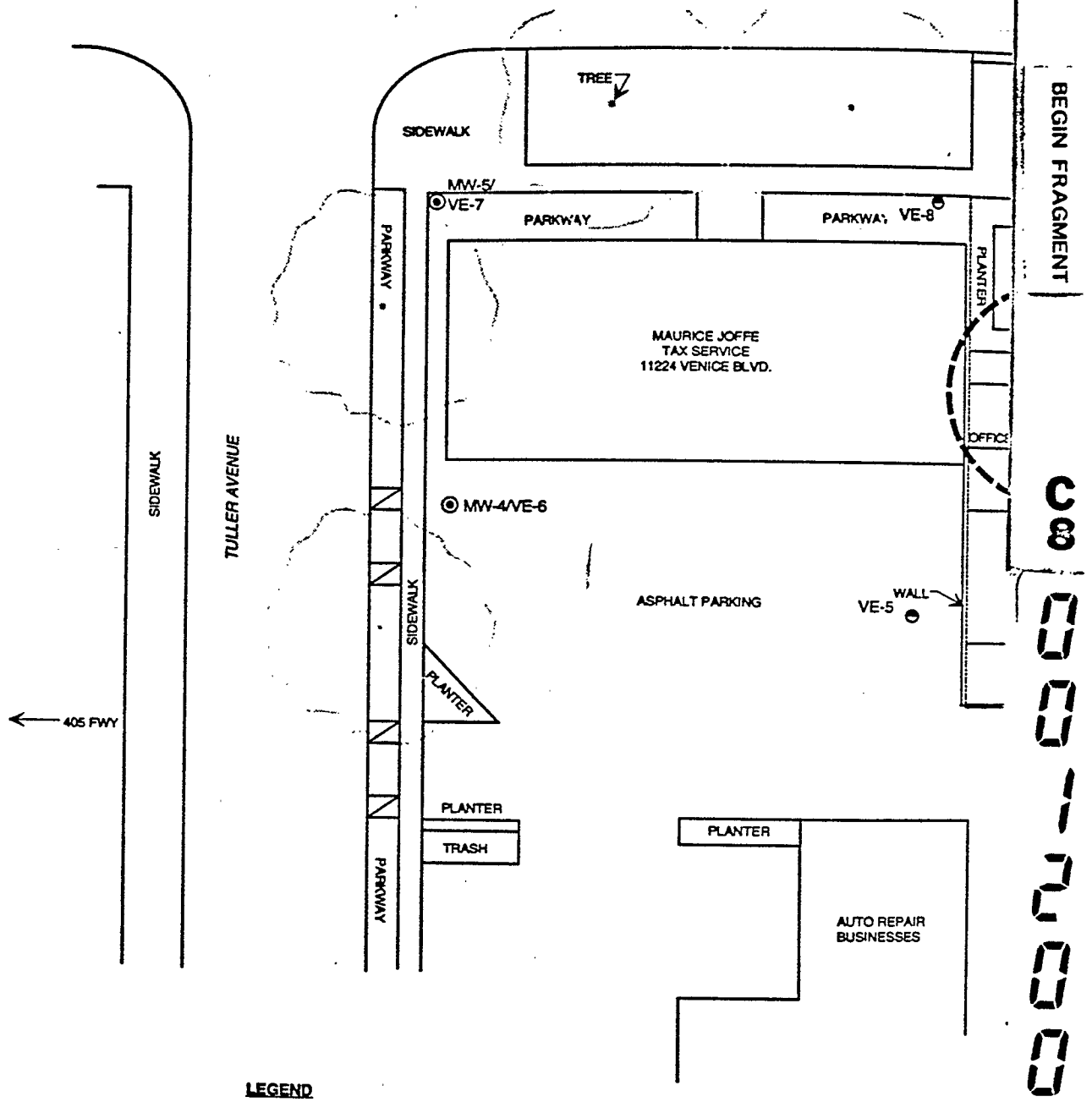
PLATE 2

END FRAGMENT

C8 00-1-1-96

00288

November 1994
Project No. 92-41-2850



LEGEND

MW-5/VE-7 — Ground Water Monitoring Well/ Nested Vapor Extraction Well

VE-9 — Nested Vapor Extraction Well

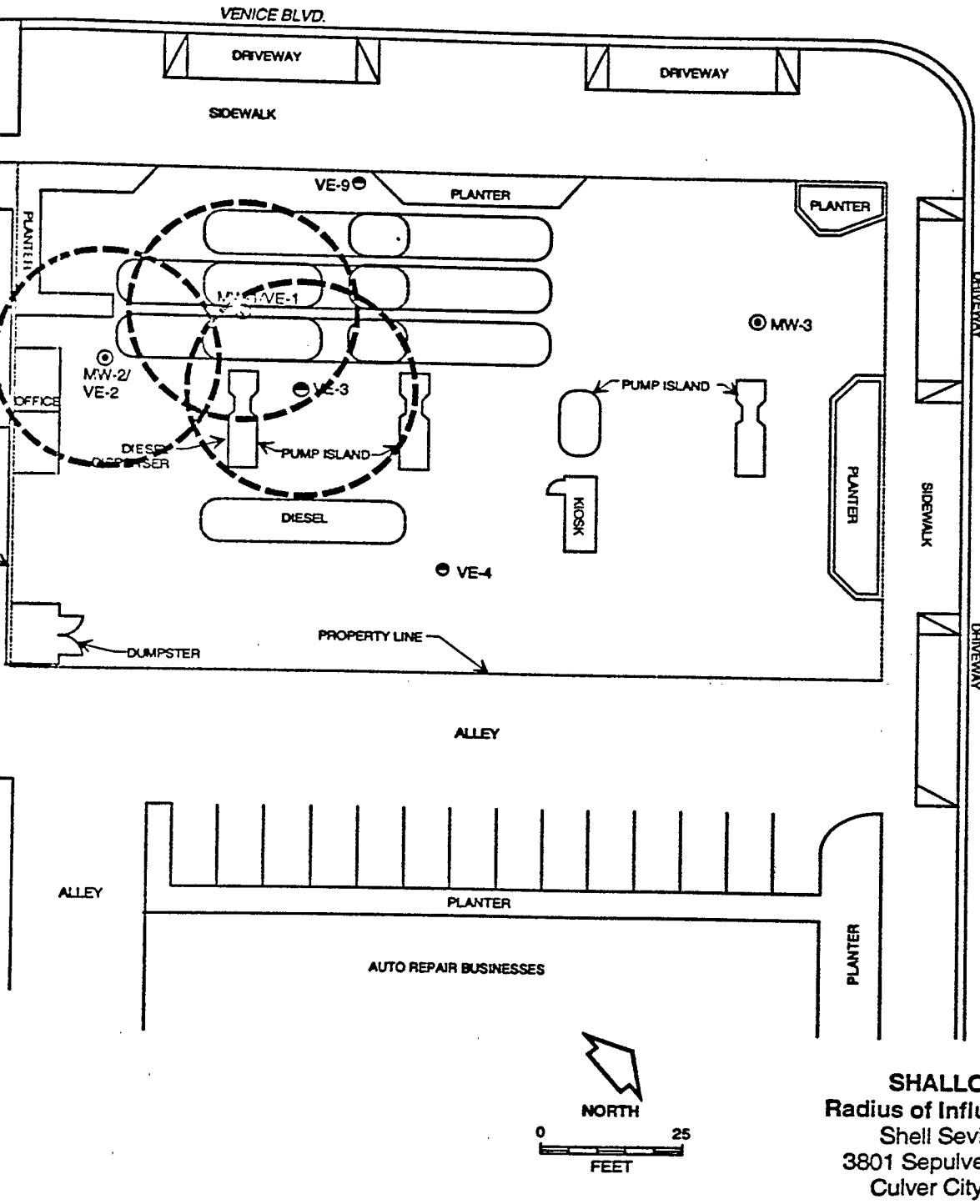
Existing Underground Fuel Storage Tank

Former Underground Fuel Storage Tank

Radius of Influence (20 Feet)

00289

FUGRO



SHALLOW ZONE
Radius of Influence - 20 Feet
Shell Sevice Station
3801 Sepulveda Boulevard
Culver City, California

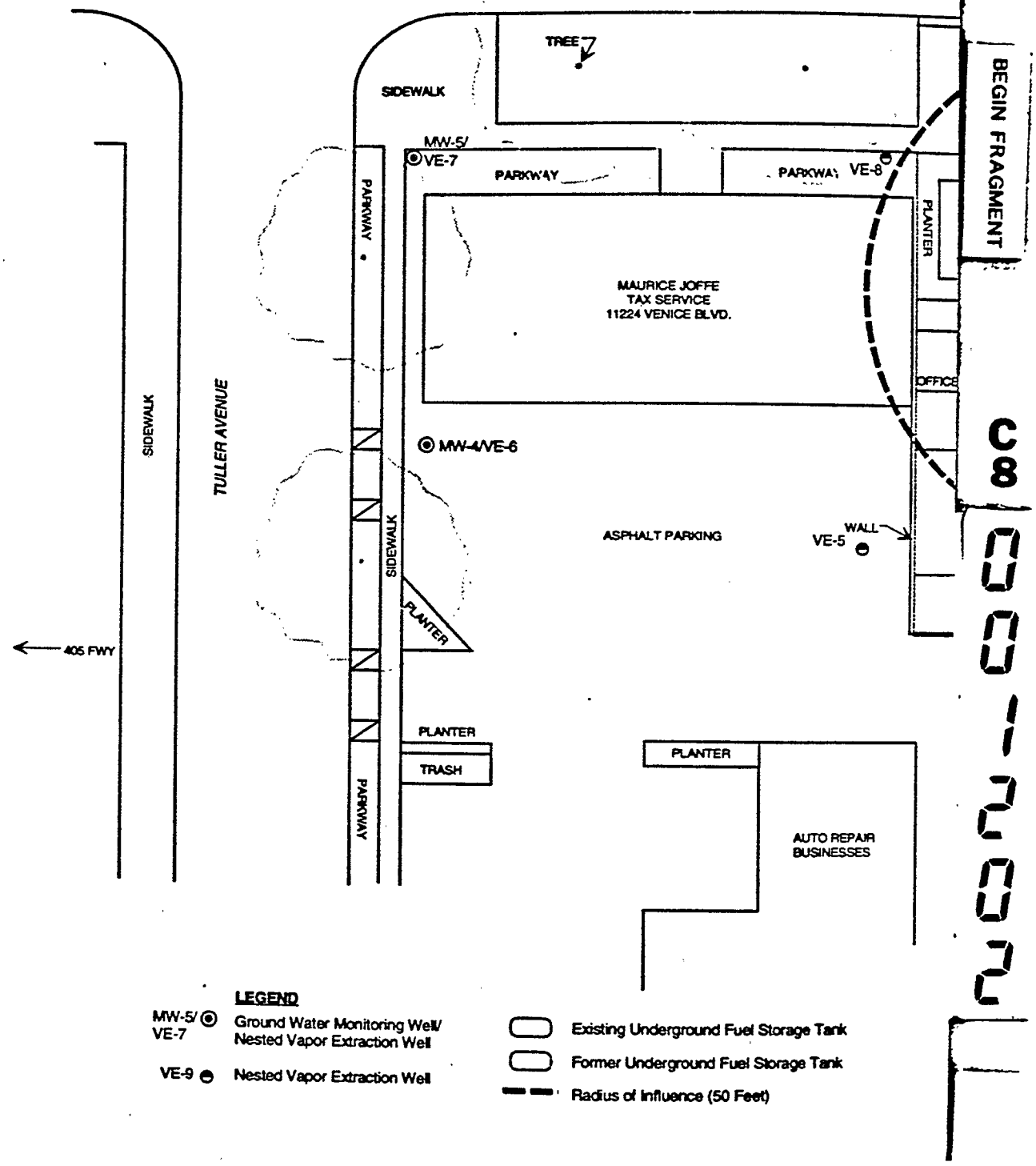
PLATE 5

00290

END FRAGMENT

C8 00-7201

November 1994
Project No. 92-41-2850



LEGEND

MW-5/VE-7 — Ground Water Monitoring Well/ Nested Vapor Extraction Well

VE-9 — Nested Vapor Extraction Well

Existing Underground Fuel Storage Tank

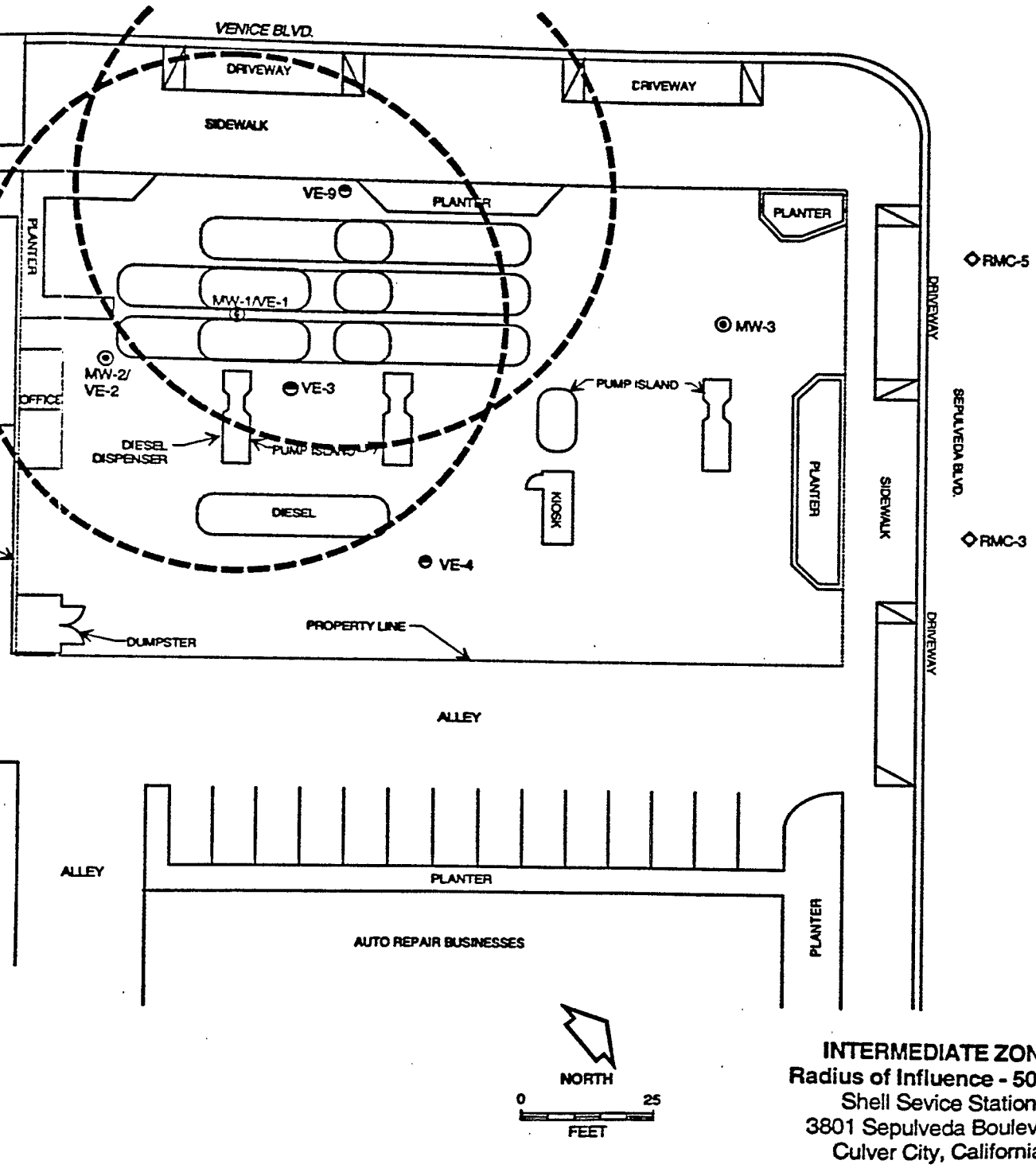
Former Underground Fuel Storage Tank

Radius of Influence (50 Feet)

C8 000-7007

00291

FUGRO



INTERMEDIATE ZONE
Radius of Influence - 50 Feet
Shell Sevice Station
3801 Sepulveda Boulevard
Culver City, California

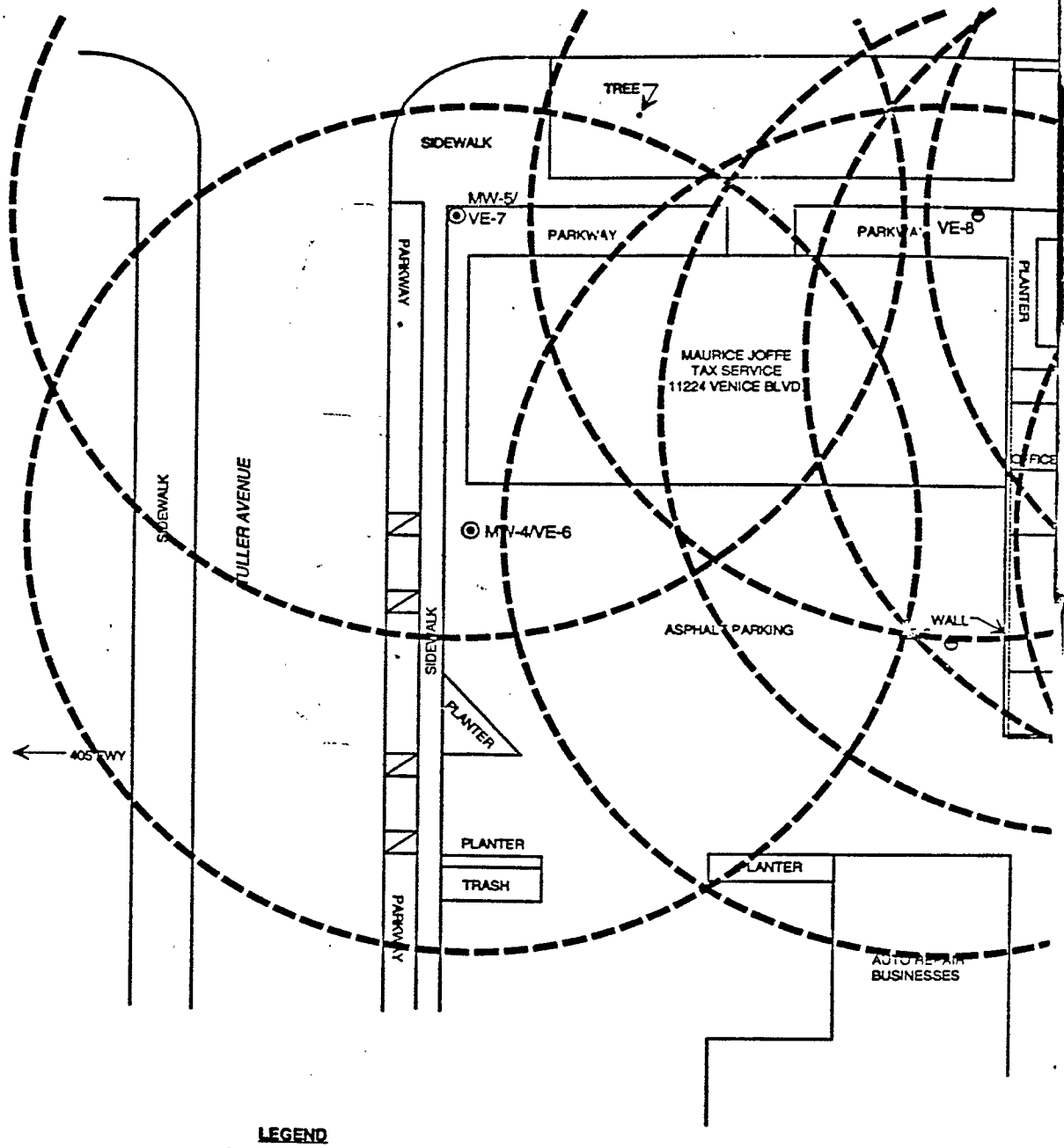
PLATE 6

00292

END FRAGMENT

C8 00-12-07

November 1994
Project No. 92-41-2850



LEGEND

MW-5/VE-7 — Ground Water Monitoring Well/ Nested Vapor Extraction Well

VE-9 — Nested Vapor Extraction Well

Existing Underground Fuel Storage Tank

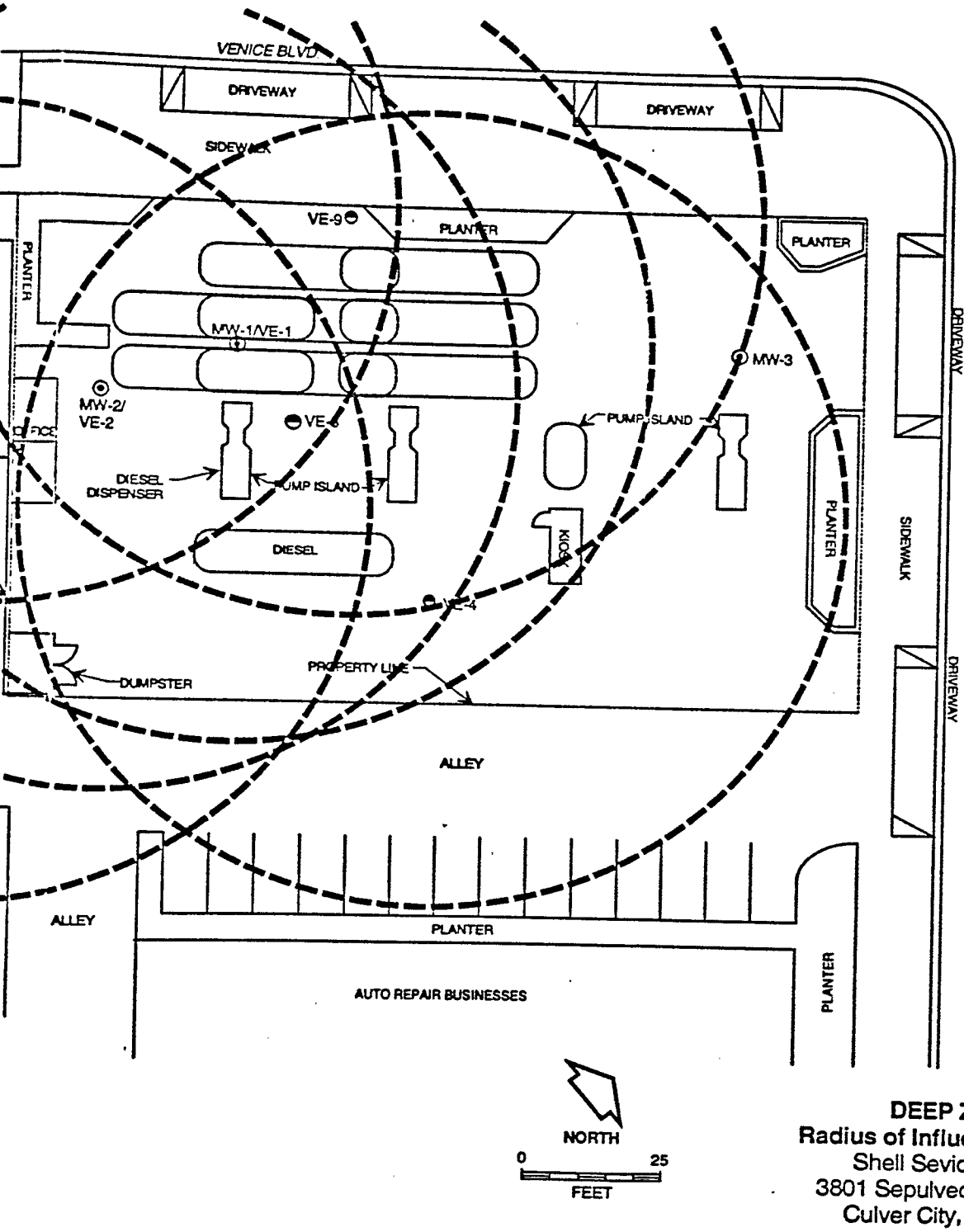
Former Underground Fuel Storage Tank

Radius of Influence (50 Feet)

BEGIN FRAGMENT

00293

FUGRO



DEEP ZONE
Radius of Influence - 75 Feet
Shell Sevice Station
3801 Sepulveda Boulevard
Culver City, California

PLATE 7

END FRAGMENT

C8 00-12-05

ATTACHMENT MM

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
WASTE MANAGEMENT DIVISION
LOCAL OVERSIGHT PROGRAM

DRAFT

TELEPHONE: (818) 458-3574
FACSIMILE: (818) 458-3595

ADDRESS ALL CORRESPONDENCE TO P.O. BOX 1460 ALHAMBRA, CA 91802-1460

INSPECTION REQUEST FORM

DATE: April 27
CALLER: Nuedi Balsitas
COMPANY: Wayne Perry, Inc.
TELEPHONE: (714) 826-0352
SITE NAME: Shell Station
SITE ADDRESS: 3801 Sepulveda Blvd.
Culver City
NEAREST CROSS ST. Venice

FILE NO. I- 7099
LOP PROJECT ENGINEER: MUNROE
INSPECTOR: [X] LOBATO [X] UNKNOWN [ ] MANSOUR

WORK PURPOSE
[ ] SITE ASSESSMENT
[X] REMEDIATION
[ ] POST REMEDIATION VERIFICATION

WORK TYPE	FIELD WORK DATE(S) FROM	FIELD WORK DATE(S) TO	MIN. JOB TIME FROM	MIN. JOB TIME TO
[ ] GWMW INSTALLATION	/ /	/ /		
[ ] GWMW DEVELOPING	/ /	/ /		
[✓] PURGING AND SAMPLING	5/4/95	5/4/95	8:30	1030
PURGE METHOD Manual Bailing				
[ ] SOIL BORING AND SAMPLING	/ /	/ /		
[ ] EXCAVATION SAMPLING	/ /	/ /		
[ ] VADOSE WELL INSTALLATION/TEST	/ /	/ /		
[ ] VES TEST	/ /	/ /		
[ ] THERMAL TREATMENT INSTL/TEST	/ /	/ /		
[ ] BIO-REMEDIATION INSTALLATION/TEST	/ /	/ /		
[ ] PUMP & TREAT INSTALLATION/TEST	/ /	/ /		
[ ] AIR SPARGING INSTALLATION/TEST	/ /	/ /		
[ ] AQUIFER TEST	/ /	/ /		
[ ] OTHER	/ /	/ /		

WORK PLAN APPROVAL BY LOP:
[X] YES [ ] NO [ ] NOT APPLICABLE
[ ] LETTER
[ ] VERBAL

MOBILE LAB: [ ] YES [X] NO

HEALTH AND SAFETY PLAN SUBMITTED
[X] YES [ ] NO

LAB ANALYSIS: TPH / BTEX

COMMENTS:
WPC #88.065

FORM I-1 M&M:vc (4/1994)

FORM COMPLETED BY Nuedi Balsitas

TOTAL P.02

ATTACHMENT NN

6867-7099

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
L.O.P PURGING AND SAMPLING INSPECTION REPORT

DATE 5-4-95

FACILITY NAME SHELL FILE NO.: 7099

SITE ADDRESS 3801 So. SEPULVEDA Culver City

CONTACT PERSON GEORGE GONZALEZ PHONE ( ):

INSPECTION DONE BY DAVE LORATO

WELL GAUGING:

- GROUNDWATER ELEVATION WAS AT
- METHOD OF TESTING . PASTE [ ] CLEAR BAILER [ ]
  OIL/ WATER INTERFACE PROBE [✓] NAME ORS
- FLOATING PRODUCT YES [✓] NO [ ] THICKNESS 3.73 FT.
- HYDROCARBON ODOR YES [✓] NO [ ] SHEEN YES [ ] NO [ ]

CONDITION OF WELL: LOCKABLE LID [ ] WELL BOX PADLOCK [ ]
GASKET CONDITION: WATER IN WELL BOX?

LOCATION OF WELL: NEAR FUEL DISPENSERS OR POSSIBLE CONTAMINATED AREA?
IN DRAINAGE COURSE OR OTHER LOW POINT?

PURGING: VACUUM TRUCK [ ] HAND BAILING [✓] RIG BAILED [ ]
SUBMERSIBLE ELECTRIC PUMP [ ] HAND PUMP [ ] OTHERS [ ]
DEDICATED STINGERS [ ] BLADDER PUMP [ ] OTHER [ ]
CALCULATED ONE (1) WELL VOLUME =
CALCULATED FOUR (4) WELL VOLUME=
ACTUAL VOLUME REMOVED GALLONS G.P.M RATE
DID WELL GO "DRY" YES FAST OR SLOW RECHARGE
WATER STABILITY MEASUREMENTS (T, PH, COND) SEE FORM ATTACHED
METHOD OF TAKING SAMPLE FOR STABILITY READINGS AND INSTRUMENTS
SEPERATE METERS ; TURBIDITY METER
"SOUNDED" WELL TO DETERMINE RECHARGE ? YES [✓] NO [ ]
FINAL TURBIDITY TAKEN IMMEDIATELY AT END OF PURGING ? YES

00298

SAMPLER: TYPE OF SAMPLER: DISPOSABLE [✓] TEFLON [ ] STAINLESS STEEL [ ]

DEDICATED BLADDER PUMP [ ] BOTTOM RELEASE CONTROL VALVE [ ]

PINCH TUBE [ ] NO BOTTOM RELEASE VALVE [✓]

SAMPLE CONTAINER: SIZE 2 per well TYPE OF CONTAINER 40 ML VOA VIALS

RATE OF FILLING _____ AIR BUBBLES _____

NON-VOC CUSTODY SEAL _____ PLACED IN SEALABLE BAG _____

ICE CHEST: ICE ✓ BLUE ICE _____

SUFFICIENT TO MAINTAINED AT 4 C _____

DECON : DID ALL EQUIPMENT DECONED? YES DECON LINE: # OF BUCKETS 4

TYPE OF DETERGENT NON-PHOSPHATE SOURCE OF WATER DISTILLED

FOR SUBMERSIBLE PUMP; IS ENTIRE HOSE, SUPPORT AND CONTROL CABLES

DECONED ADEQUATELY? NYLON ROPE NOT DEDICATED

FOR RIG BAILING ARE ALL SPOOLS, PULLEYS, ETC. WHICH CONTACT CABLE

ADEQUATELY DECONED? _____

CHAIN-OF-CUSTODY:

NAME OF THE LABORATORY CROSBY LABS.

ANALYSES TO BE RUN 8015 M(G) ; 8020

QA/QC SAMPLES 1- TRIP ; 1- DUPLICATE (VE-4) ; BAILE RINSE BLANK

PRESERVATIVES USED HCL

MOBILE LAB ____ NAME _____ CERTIFICATE # _____ EXPIR DATE _____

COMMENTS: HAS GAUGED & PURGED ALL WELLS AND REMOVED FLOATING PRODUCT (5 WELLS) - 14 GALS.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

Waste Management Division

INSPECTOR'S REPORT

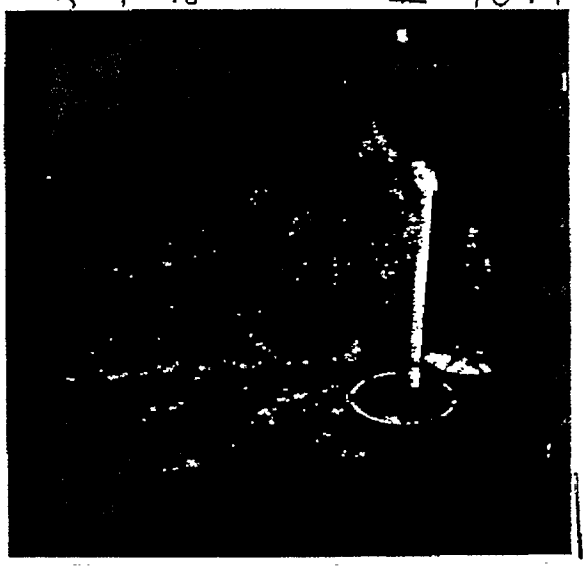
WELL NO.	CALC PURG VOL 4x1w.v GALS.	ACTUAL PURGE VOLUME GALS.	WATER STABILITY T,PH,C 1°, 0.1, 10%	TURBIDITY NTU @ END OF PURGING	ELAPSED TIME TO RECHARGE 80%	E/T TO FINAL SAMPLE	SAMPLE CLARITY	COMMENTS
MW3	7.1	DRY 8	ONLY 1 SET	>200	NEVER	RECHARGED		4"
NE9	0.7	3	ok, ok, ok	>200	UNK.	1 HR 30 MIN		2" TWO CASINGS NEEDS WATER SEAL
								CONCRETE SURFACE SEAL CRACKED
VE-4	0.7	DRY 1.5		>200				

FREE PRODUCT REMOVED WEEKLY

I SAW VE-9 SAMPLED

FREE PRODUCT IN: MW-1, MW-2, MW-4, MW-5, VE-5

5-4-95 I-7099



SAMPLING VE-9

38-0002 DPW 10/86